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Research Paper

Predicting Accuracy in Eyewitness Testimonies with Memory Retrieval Effort and Confidence

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ABSTRACT

Although some researchers in the broad field of academic psychology have come to feel that eyewitness memory is more trustworthy than previously thought, the general consensus is that eyewitness recall is faulty. There is a plethora of evidence to support the notion that eyewitness recall is fundamentally faulty. Memory is flexible, according to research, and eyewitnesses misidentifications are believed to have played a significant role in the majority of Exonerations of an innocent. The great majority of eyewitness accuracy research has focused on assessing and improving eyewitness identification accuracy, or the ability of a witness to properly name a culprit from a collection of foils and suspects. The research of eyewitness memory employs a variety of techniques, such as the clinical approach, the interview method, and the simulation method, among others. Many of the reasons discussed above contribute to the distortions and mistakes in eyewitness recall. Age, sex, mood, assurance, suggestibility, witness intelligence, and other characteristics all play a role in EWT. The link between eyewitness credibility and accuracy has been the subject of numerous investigations. In terms of common sense, it is assumed that there is a substantial positive association between eyewitnesses' confidence and accuracy. However, several research has revealed either no association or a slight positive correlation between the two variables, contradicting this idea. The correlation between trust and accuracy was nearly negligible in one study, with an average correlation of 0.07. The effect of emotion on recall accuracy seen events has been examined in various experimental investigations by showing an emotional or impartial experience through slides. The experienced events in real-life settings are very emotive, which is difficult to replicate in the laboratory.

Keywords: Predicting Accuracy, Eyewitness, Testimonies, Memory Retrieval, Effort, Confidence

There is plenty of evidence to support the notion that eyewitness recollection is fundamentally unreliable. To begin, a Google search for "eyewitness memory is unreliable" yielded 2,250 results.

Elizabeth Loftus demonstrated that memory is flexible in the 1970s, which was previously startling but is now widely accepted. Subjects in a memory test can be persuaded to believe

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they saw a stop sign when they actually have seen a speed limit sign (Loftus, Miller, & Burns, 1978) or that they got lost in a shopping center as a child when no such experience occurred (Loftus, Miller, & Burns, 1978). (Loftus & Pickrell, 1995) [1]. Eyewitness memories are frequently important sources of information when it comes to determining what transpired during a criminal incident (Wells et al., 2006). Despite its importance in criminal investigations and judgment, eyewitness testimony is frequently proven to be inaccurate, and it is a major contributor to unjust convictions (Garrett, 2011).

The concept of cue-utilization (Koriat, 1997, 2006) proposes that people's judgments of their own recollections can be based on information or theory-based knowledge about how memory works, or on experience gained during the retrieval (experience-based). Experience based evaluations are more concerned with memory processes in general, such as the speed with which memory may be retrieved, rather than the substance of the memory, as in the reality monitoring framework. While theory-based judgments are produced from a purposeful application of one's beliefs and theories about just how memory works within this framework, experience-based judgments are obtained more automatically from clues during the retrieval process.[2]

This link may be understood differently by memory professionals in different study disciplines, including eyewitness memory experts and basic memory specialists, as well as laypeople. If diverse points of view exist, these disparities could cause problems in the courts. For example, memory experts from various domains might be called to testify in court as expert witnesses, and then make contradictory comments about stress–memory relationships [3]. Stern's results about gender differences in eyewitness recall accuracy and suggestibility effect could be explained by men and women's differing socialization processes. Gender as a "static category," according to Deaux (1984), needs to be reconsidered. She has proposed that gender be seen as a "process" that is influenced by the social context in which it emerges [4].

Emotions are frequently mentioned among estimating variables, a category that includes characteristics that reduce or augment the overall credibility of eyewitnesses (Wells, 1978) and can only be considered after the fact. For both victims and witnesses, crime is a traumatic event. Even an unintentional observer might become emotionally invested in a situation. Because of our widespread mistrust of emotions and those who display them, we've come to believe that they're a cause of memory lapses. Nevertheless, as we'll see, research does not always back up this assertion [5].

Eyewitness is a type of direct evidence that can be useful in forensic investigations. The evidence of an eyewitness is regarded as hypothetical by law enforcement agencies in the absence of any other crucial proof. As a result, the criminal justice system relies heavily on eyewitness evidence to determine the circumstances around a crime or a near-miss. Remembering the events of a crime is essentially a cognitive process that is influenced by a variety of elements, many of which we have very little control over (Safer et al. 2016) [7].

Memory Accuracy Prediction
The great majority of eyewitness accuracy research has focused on evaluating and improving eyewitness identification accuracy, or witnesses' ability to properly identify a culprit among a collection of foils and suspect (see Wells et al., 2006). The most frequently examined element in these studies on recognition judgments is a witness' subjective trust in his or her recall (for reviews, see Brewer and Weber, 2008; Roediger et al., 2012; Roediger

and DeSoto, 2014; Wixted et al., 2015; Wixted and Wells, 2017). Although there has been some controversy throughout the years, the current consensus is there is a constant pattern. Confidence and happiness have a positive, if not perfect, link. Wixted et al., 2015; Wixted and Wells, 2015; Wixted et al., 2015) 2017 [2]. However, findings on the effects of acute stress during embedding on memory capacity appear to be inconsistent across research areas (Christianson, 1992; Christianson) [3]

An appropriate memory check
Even though this paper is primarily concerned with emotions, a conceptual model for research must include instructions for examining witnesses' memories. The emotional influence appears to be linked to memory function, according to empirical findings. As a result, model research should investigate using many methods to assess memory performance. Furthermore, ecologically valid memory tests reflect what an actual eyewitness is asked. As a result, it is recommended to simulate police practices for conducting interviews eyewitnesses, such as (1) free recollection, which might also allow us to answer the general question about the number of details remembered, forgotten, or distorted, (2) structured memory of the events, which may allow us to distinguish among central and peripheral details and how they are remembered, and (3) organized recollection, which may enable us to distinguish among both central and peripheral details and how they are remembered (3) an adequate eyewitness identification approach, based on quasi-automatic information processing, that allows us to evaluate whether emotions influence recognition[5].

Recording Identification Results
The identification findings acquired from the witness are accurately and thoroughly reflected in the record of the conclusion of the identification operation.

When performing an identification technique, the investigator must document any identification or non-identification findings achieved from the witness in order to preserve the conclusion of the operation**.**

When doing an identification method, the investigator should:
1. Write down both the identification and nonidentification results, including the witness' own comments about how certain he or she is.
2. Make sure the witness signs and dates the results.
3. Make sure the witness doesn't see any materials that show past identification results.
4. Make sure the witness doesn't write or mark anything that would be used in later identifying procedures.

The strength and trustworthiness of identification or non-identification results acquired from the witness are improved by keeping a thorough and accurate record of the outcome of the identification procedure. This document could be crucial.

Limitations
First, we interviewed witnesses right after they saw the crime scene, which means that the retention includes details that witnesses remember well and can retrieve quickly. It appears that effort cues may be less useful in this type of retrieval setting for distinguishing accurate from inaccurate statements. This is a topic that should be investigated further in the future.

CONCLUSION

To summarise, eyewitness testimony is extremely compelling and persuasive to jurors, despite its lack of reliability. Identification mistakes happen, and these mistakes can lead to persons being wrongfully charged and convicted. Leading inquiries, misinterpretations of events, talks with co-witnesses, and their own expectations for what should have happened can all sabotage eyewitness recollection. People can even recall entire incidents that never happened.

Memory issues in the legal system are quite serious. But what can we do to begin the process of repairing them? Many specific recommendations have already been made, and many of them are already being implemented (e.g., Steblay & Loftus, 2012; Technical Working Group for Eyewitness Evidence, 1999; Wells et al., 1998). Some of these suggestions are directed at specific legal procedures, such as when and how witnesses should be interrogated, as well as how lineups should be created and conducted. Other suggestions include providing adequate training (typically in the form of expert witness testimony) to jury members and others charged with evaluating eyewitness recollection. Although eyewitness testimony has enormous relevance in the legal system, decades of research clearly show that it is frequently accorded far more weight than its accuracy warrants.

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Conflict of Interest
The author declared no conflict of interest.